

1. A magnification loupe carried by spectacles, comprising:
  - a two-element eyepiece lens;
  - a three-element objective lens; and
  - a two-element prism disposed between said eyepiece lens and said objective

5 lens;

the loupe having a working distance in the range of approximately 12 inches to approximately 24 inches;

the loupe having a magnification in the range of approximately 3.3 to approximately 4.8;

10 the spacing  $S_1$  between said eyepiece lens and said prism, along an optical centerline, in the range of approximately 3.63 mm to approximately 25.16 mm;

wherein the said lenses and said prism are constructed and arranged according to the following parameters:

Element	Glass	nd	vd	Radius	Thickness	Diameter	Sep.
I	Ohara BAH 27	1.7015	41.2	$R_1 = 42.19$ $R_2 = 12.45$	3.5	13.4	
II	Ohara PBH6W	1.8052	25.4	$R_3 = 12.45$ $R_3 = 36.00$	1.5	13.4	
Prism A	BAK4 LAK10	1.5688 1.7200	56.13 50.41				$S_2 = 3.41$ $S_3 = 2.33$
Prism B	BAK4 LAK10	1.5688 1.7200	56.13 50.41				$S_4 = 0.5$ $S_5 = 22.8$
III	Ohara S-TIL2	1.5410	47.2	$R_4 = \text{PLANO}$ $R_5 = 12.61$	3.0	12.0	
IV	Ohara PBH71	1.923	21.3	$R_5 = 12.61$ $R_6 = 12.61$	1.5	15.4	
V	SCHOTT BK7	1.5168	64.2	$R_7 = 10.06$ $R_6 = 12.61$	7.1	15.4	
VI	SCHOTT S-LAM2	1.744	44.8	$R_8 = 25.11$ $R_9 = 25.11$	4.7	17.5	

wherein the Roman numerals I-VI identify respective lens elements of said eyepiece lens and said objective lens, from eyepoint side to object side; nd represents the refractive index of each element; vd is the Abbe dispersion number; R1-R9 represent the radii, in millimeters, of the respective refractive surfaces, in order from the eyepiece side to the object side; and the thickness and separation parameters represent the thicknesses of the lens elements and the air spaces, respectively, in millimeters, from the eyepoint side to the object side, measured along an optical centerline.

2. The magnification loupe of claim 1, wherein the loupe has a working distance of 12 inches, a magnification of 3.3 and said spacing between said eyepiece and said prism is 6.96 mm.
3. The magnification loupe of claim 1, wherein the loupe has a working distance of 16 inches, a magnification of 3.3 and said spacing between said eyepiece lens and said prism is 5.1 mm.
4. The magnification loupe of claim 1, wherein the loupe has a working distance of 24 inches, a magnification of 3.3 and said spacing between said eyepiece lens and said prism is 3.63 mm.
5. The magnification loupe of claim 1, wherein the loupe has a working distance of 12 inches, a magnification of 3.8 and said spacing between said eyepiece lens and said prism is 12.38 mm.
6. The magnification loupe of claim 1, wherein the loupe has a working distance of 16 inches, a magnification of 3.8 and said spacing between said eyepiece lens and said prism is 9.92 mm.

7. The magnification loupe of claim 1, wherein the loupe has a working distance of 24 inches, a magnification of 3.8 and said spacing between said eyepiece lens and said prism is 8.02 mm.
8. The magnification loupe of claim 1, wherein the loupe has a working distance of 12 inches, a magnification of 4.3 and said spacing between said eyepiece lens and said prism is 18.7 mm.
9. The magnification loupe of claim 1, wherein the loupe has a working distance of 16 inches, a magnification of 4.3 and said spacing between said eyepiece lens and said prism is 15.56 mm.
10. The magnification loupe of claim 1, wherein the loupe has a working distance of 24 inches, a magnification of 4.3 and said spacing between said eyepiece lens and said prism is 13.13 mm.
11. The magnification loupe of claim 1, wherein the loupe has a working distance of 12 inches, a magnification of 4.8 and said spacing between said eyepiece lens and said prism is 25.16 mm.

12. The magnification loupe of claim 1, wherein the loupe has a working distance of 16 inches, a magnification of 4.8 and said spacing between said eyepiece lens and said prism is 21.23 mm.

13. The magnification loupe of claim 1, wherein the loupe has a working distance of 24 inches, a magnification of 4.8 and said spacing between said eyepiece lens and said prism is 18.22 mm.